

CLAIMS

1. External emergency structure of the modular kind comprising a plurality of modules (1, 2) stacked one on top of the other, each defining a top surface (3, 31), the top surface (3, 31) being closed by means (6, 7) suitable to open under the weight of a person in order to allow said person to access the module (1, 2), slowing down the fall, and close immediately afterwards.
2. A structure as claimed in claim 1 wherein the height of each module (1, 2) is not less than the height of the floor of the building to which it is connected.
3. A structure as claimed in claim 1 wherein the height of the structure is not less than the height of the last floor of the building to which said structure is connected.
4. A structure as claimed in claim 1 comprising a bottom module (2), placed at ground level, and several modules (1) stacked on top of the bottom module (2).
5. A structure as claimed in claim 4 wherein each module (1, 2) comprises a frame at least consisting of uprights (4) joined together with cross members (5).
6. A structure as claimed in claim 5 wherein enclosing means are attached to the frame.
7. A structure as claimed in claim 4 wherein each module (1, 2) also comprises means adapted to connect it to at least an adjacent module (1, 2) and means apt to attach it to the outer wall of the building.
8. A structure as claimed in claim 4 wherein the modules (1, 2) have a square section with a side length included between 1,8 and 4 metres, approximately.
9. A structure as claimed in claim 8 wherein the modules (1, 2) have a square section with a side length of approximately 2,5 metres.
10. A structure as claimed in claim 5 wherein the top surface (3, 31) of each module (1, 2) is attached to at least one of the cross members (5) and comprises the supporting means (6) that carry the cushioning devices (7).
11. A structure as claimed in claim 10 wherein the supporting means (6) are flexible and are attached to at least one cross member (5) at one end.
12. A structure as claimed in claim 10 wherein the supporting means (6) are connected to the walls of the module (1, 2) through elastic means suitable to allow the supporting means (6) to open gradually under the weight of a person and to close after the passage of said person.

13. A structure as claimed in claim 10 wherein the cushioning devices (7) are integral with the supporting means (6) and are able to absorb the kinetic energy of a person in free fall in the module (1) above, effectively slowing down the fall.
14. A structure as claimed in claim 10 wherein the top surface (3) of each
5 additional module (1) consists of supporting means (6) and cushioning devices (7) with a triangular shape.
15. A structure as claimed in claim 10 wherein the top surface (3) of an additional bottom module (1) consists of supporting means (6) and cushioning devices (7) with a rectangular shape.
- 10 16. A structure as claimed in claim 4 wherein each additional module (1) also comprises an access door (8) housed in the wall of the additional module (1) that faces the building and is aligned with an emergency exit of the building.
17. A structure as claimed in claim 16 wherein the access door (8) is a fire door.
18. A structure as claimed in claim 4 wherein backstairs and/or emergency stairs
15 (9) are included in each additional module (1).
19. A structure as claimed in claim 16 suitable to connect at least two floors of the building to the ground level, wherein each of said floors of the building is attached to an additional module (1) comprising an access door (8).
20. A structure as claimed in claim 19 wherein the access door (8) of each
20 additional module (1) comprises locking means suitable to prevent opening if the additional module (1) is occupied and/or if its top surface (3) is opening.
21. A structure as claimed in claim 19 wherein the top surface (3, 31) of each module (1, 2) comprises locking means suitable to prevent access to the module (1, 2) below if said module (1, 2) is occupied or if the access door (8) of said
25 module (1) is open.
22. A structure as claimed in claim 16 suitable to connect only a floor of the building to the ground wherein only the additional module (1) attached to said floor of the building comprises an access door (8) housed in the wall facing the building and positioned aligned with an emergency exit on said floor.
- 30 23. A structure as claimed in claim 16 suitable to connect only a floor of the building to the ground wherein only the access door (8) of the additional module (1) attached to said floor of the building can be opened.

24. A structure as claimed in claim 22 or 23 wherein the height of the structure is essentially equal to the distance from the ground of the ceiling of said floor.

25. A structure as claimed in claim 10 wherein the top surface (31) of the bottom module (2) comprises two bascule parts (37) consisting of supporting means (6)

5 and cushioning devices (7) in the shape of a rectangle.

26. A structure as claimed in claim 5 wherein the bottom module (2) also comprises a slide (11) suitable for "accompanying" the persons coming from the additional module (1) above to an exit (12).

27. A structure as claimed in claim 5 wherein the bottom module (2) also
10 comprises at least a flexible cylindrical tube (20), which is supported by a support (32) and comprises a funnel-shaped opening, suitable for "accompanying" the persons coming from the additional module (1) above to an exit (12).

28. A structure as claimed in claim 28 wherein the bottom module (2) also
15 comprises a roundabout system with several flexible cylindrical tubes (20) that comprise a funnel-shaped opening and are suitable for "accompanying" the persons coming from the additional module (1) above to an exit (12).